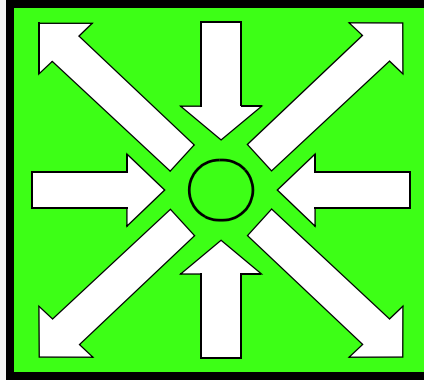


Efficient/Flowpoint/Cabletron DSL Router Series



Supports Management Module SM-CSI1096

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Introduction

This section introduces SPECTRUM Device Management documentation for Efficient Networks, FlowPoint, and Cabletron Digital Subscriber Line (DSL) devices.

This introduction contains the following topics:

- [*Purpose and Scope*](#)
- [*Required Reading*](#)
- [*Supported Devices*](#) (Page 6)
- [*The SPECTRUM Model*](#) (Page 7)

Purpose and Scope

Use this document as a guide for managing the Digital Subscriber Line (DSL) devices listed on [Page 6](#) with SPECTRUM management module SM-CSI1096. This document describes the icons, menus, and views that enable you to remotely monitor, configure, and troubleshoot the DSL devices through software models in your SPECTRUM database.

Primarily, this document provides information specific to the SM-CSI1096 management module. For more general information on using

SPECTRUM, refer to the topics listed under [*Required Reading*](#)

Required Reading

To use this documentation effectively, you must be familiar with the information covered by the SPECTRUM documents listed below.

- ***Getting Started with SPECTRUM for Operators***
- ***Getting Started with SPECTRUM for Administrators***
- ***How to Manage Your Network with SPECTRUM***
- ***SPECTRUM Views***
- ***SPECTRUM Menus***
- ***SPECTRUM Icons***
- ***SPECTRUM Software Release Notice***

Supported Devices

SMCSI1096 supports the following devices:

Flowpoint 128 - ISDN/IDSL Router which offers 128Kbps data transfer rates and Multiuser LAN sharing of ISDN services.

Flowpoint 144 - IDSL Router that provides data rates of 128 and 144 Kbps and Multiuser LAN sharing of IDSL services.

Flowpoint 2200 - SDSL Router with data rates up to 1.5 Mbps and multi-user LAN sharing of SDSL services.

Flowpoint 2100 - ADSL CAP Router that provides 6.2 Mbps data transfer rates and multiuser LAN sharing of ADSL CAP services.

Flowpoint 2025 - Ethernet to ATM Router that provides connectivity between an Ethernet LAN and high-speed ATM interface.

Cabletron SmartSwitch Router 115 - Ethernet to LAN Router that provides ISDN, S/T, 10BaseT, and a 4-Port Hub.

Cabletron SmartSwitch Router 130 - Ethernet to LAN Router provides ISDN, U, 10BaseT.

Cabletron SmartSwitch Router 140 - Ethernet to LAN Router that provides ISDN, S/T, 10BaseT, and dual POTS.

Cabletron SmartSwitch Router 150 - Ethernet to LAN Router that provides ISDN, U, 10BaseT, and dual POTS.

Cabletron SmartSwitch Router 250 - Provides 8Mbps data transfer rates and multiuser LAN sharing of ADSL services.

Cabletron SmartSwitch Router 245 - Provides connectivity between your office and your cable or wireless modem.

Cabletron SmartSwitch Router 255 - ADSL modem that provides 8mbps transfer rates downstream and 640 kbps upstream.

Cabletron SmartSwitch Router 265 - Provides high speed cable access and 4 port LAN Hub that can be managed via Telnet or SNMP.

Efficient Business Class 5851 - SDSL Router.

Efficient Business Class 5861 - ADSL Router (Annex A).

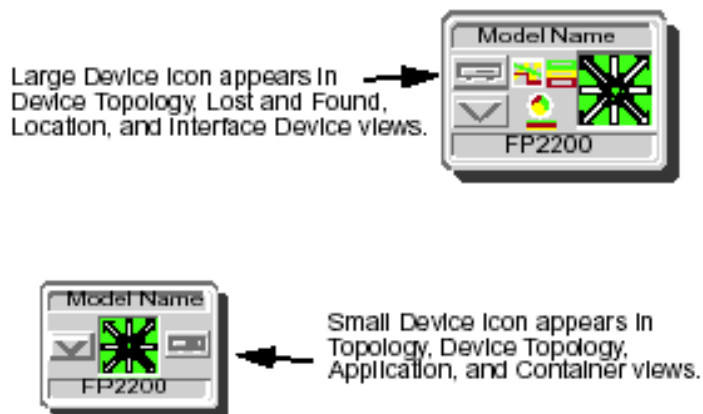
Efficient Business Class 5865 - ADSL Router (Annex B).

Efficient Business Class 5871 - IDSL Router.

The SPECTRUM Model

SPECTRUM uses a single model type for modeling the supported DSL devices. This model type is Generic_SSR_FP. This model is represented in SpectroGRAPH views by Device icons. [Figure 1](#) shows how the appearance of the Device icon varies depending on the view in which it appears.

Figure 1: Device Icon



described individually in subsequent sections of this documentation.

- [Performance Views](#) (Page 41)
- [Device Views](#) (Page 10)
- [Device Topology Views](#) (Page 14)
- [Application Views](#) (Page 15)
- [Configuration Views](#) (Page 43)
- [Model Information Views](#) (Page 49)

Device icons provide access to the views, subviews, and tables that let you manage the modeled device. . The views listed below are accessible directly from this menu and are

Tasks

This section identifies various management and troubleshooting tasks that can be performed for models of the supported DSL devices using the views, icons, and labels referenced within this document.

Application Information (examine)

- [Application Views](#) (Page 15)

Device (configure)

- [Configuration Views](#) (Page 43)

Device Performance (monitor)

- [Device Views](#) (Page 10)
- [Device Performance View](#) (Page 42)

DHCP Client Lease Information (configure)

- [DHCP Server Client View](#) (Page 28)

DOD Information (configure/examine)

- [DOD Operation/Bridging View](#) (Page 31)
- [DOD Configuration View](#) (Page 44)

File Transfer (initiate/examine)

- [Download/Upload Information View](#) (Page 17)

Interface Mask and Address (examine)

- [Secondary Address Panel](#) (Page 13)

LAN Information (configure)

- [Ethernet Information View](#) (Page 20)

Model Information (examine)

- [Model Information Views](#) (Page 49)

Network Address Translation (configure)

- [Ethernet NAT Information View](#) (Page 22)

Port Configuration (examine/modify)

- [Interface Device View](#) (Page 10)
- [Interface Icon](#) (Page 11)
- [Device Configuration View](#) (Page 43)

A Port (examine/enable/disable)

- [Interface Status View](#) (Page 12)

Port Statistics (monitor)

- [Port Performance View](#) (Page 42)

System Information (configure)

- [System Information View](#) (Page 23)

WAN Information (examine)

- [WAN Information View](#) (Page 30)

Device Views

This section describes the Device views and subviews available for models of the supported DSL devices.

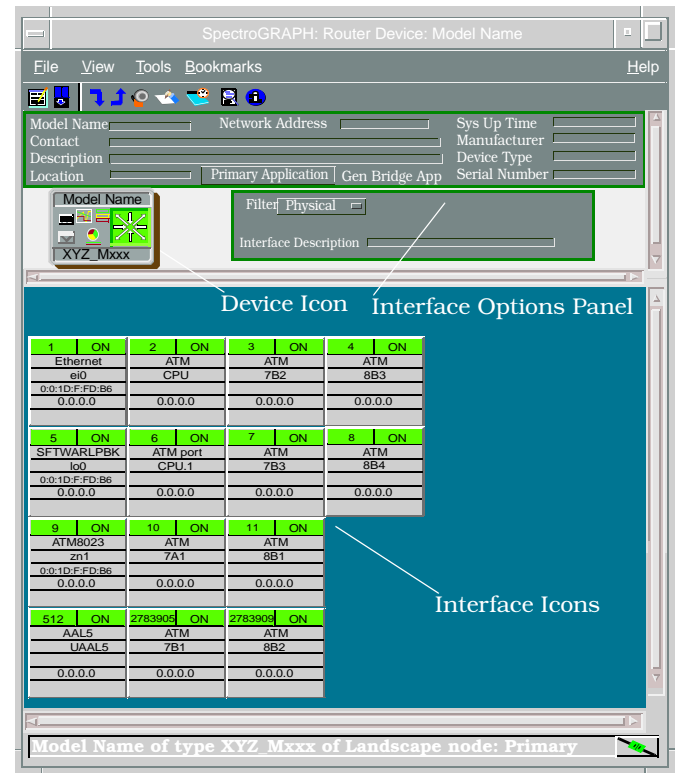
This view ([Figure 2](#)) uses icons and labels to represent the device and its components, such as modules, ports, and applications. The view provides dynamic configuration and performance information for each of the device's serial and network I/O ports, which are represented by Interface icons in the bottom panel of the view.

- [Interface Device View](#)
- [Interface Status View](#) (Page 12)
- [Secondary Address Panel](#) (Page 13)

Interface Device View

This view provides dynamic configuration and performance information for each of the device's interfaces, which are represented by Interface icons in the bottom panel of the view (see [Figure 2](#)). The middle panel of the view also displays a Device icon, which allows you to monitor the device operation and access other device-specific views.

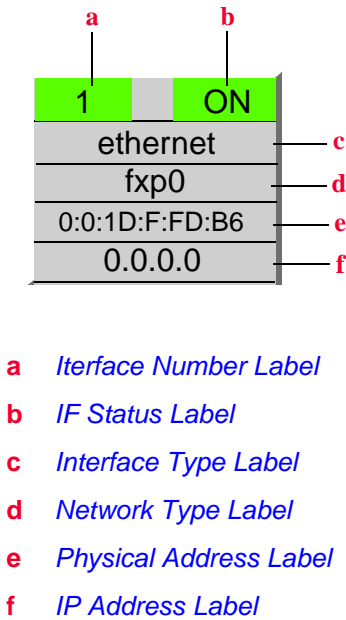
Figure 2: Interface Device View



Interface Icon

Figure 3 shows a close-up of an interface icon from an Interface Device view. Most of the informational labels on the icon also provide double-click access to other views, as explained in the following label descriptions.

Figure 3: Interface Icon



Interface Number Label

This label displays the interface (port) number.

IF Status Label

This label displays the current status of the interface for the primary application selected, e.g., Gen Rtr App or MIB-II App. Table 1 lists the possible label color representations. Note that the color of the label also depends on the interface's current Administrative Status, which you set in the *Interface Status View* (Page 12). This view can be accessed by double-clicking the label.

Table 1: Interface Status Label Colors

Color	Operational Status	Administrative Status	Label Text
Green	up	up	ON
Blue	down	down	OFF
Yellow	down	up	OFF
Red	testing	testing	TEST

Interface Type Label

This label identifies the interface type (Ethernet, ATM, etc.). Double-click this label to access the *Interface Configuration View* (Page 44).

Network Type Label

This label identifies the type of network to which the interface is connected. Double-click the label to open the Model Information view for the interface.

Physical Address Label

This label displays the physical (MAC) address of the interface. Double-click this label to open the IF Address Translation Table.

IP Address Label

This label displays the IP address for the interface. Double-click this label to open the [Secondary Address Panel](#) (Page 13), which lets you change the address and mask for the interface.

Interface Icon Subviews Menu

[Table 2](#) (Page 12) lists the Interface Icon Subviews menu options available for the supported DSL devices.

Interface Status View

Access: From the **Icon Subviews** menu for the Device icon, select **IF Status**.

This view provides the following information on the operational status of the interface and allows you to enable or disable the port:

Operational Status

The current state of the interface (ON, OFF, or Testing).

Administrative Status

This button allows you to select the desired operational state of the interface (ON, OFF, or Testing).

Table 2: Interface Icon Subviews Menu

Option	Opens the ...
Detail	Interface Detail view, which displays Packet, Error, and Discard Breakdown pie charts. For more information, see SPECTRUM Views.
IF Status	Interface Status View (Page 12).
IF Configuration	Device Configuration View (Page 43).
IF Address Translation Table	Interface Address Translation Table view, which shows the Physical and Network address for each interface.
Secondary Address Panel	Secondary Address Panel (Page 13).

Table 2: Interface Icon Subviews Menu

Option	Opens the ...
Thresholds	Interface Threshold view, which allows you to set the on/off alarm thresholds for: load, packet rate, error rate, and % discarded.
Model Information	Model Information view for the selected application. See Model Information Views (Page 49).

Secondary Address Panel

Access: From the **Icon Subviews** menu for the Device Icon, select an Interface icon and then select **Secondary Address Panel**.

This panel provides a table of IP addresses and masks obtained from the Address Translation table within the device’s firmware. You can change the current address displayed in the IP Address field by selecting an entry from the table in this panel and clicking the Update button.

Device Topology Views

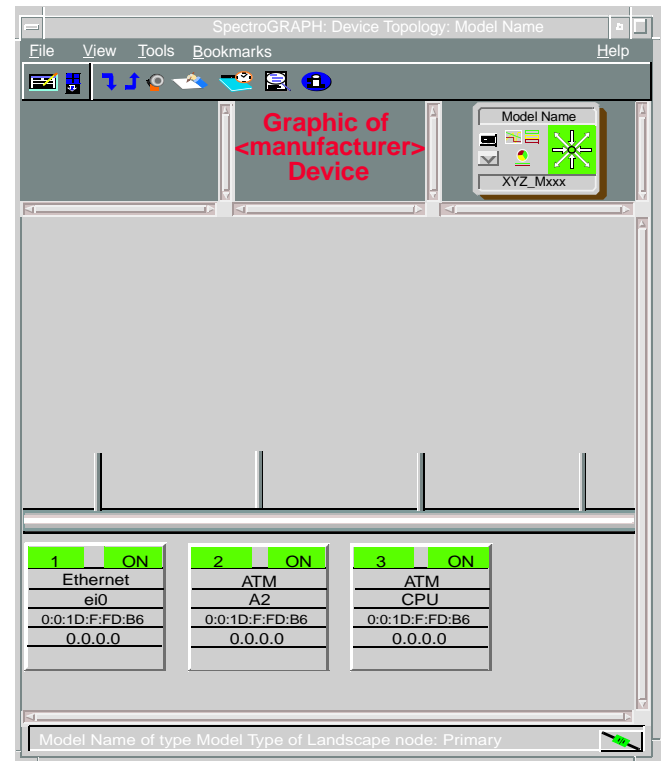
This section provides brief descriptions of the Device Topology views available for models of the supported DSL devices.

Access: From the **Icon Subviews** menu for the Device icon, select **Device Topology**.

The Device Topology view ([Figure 4](#)) shows the connections between a modeled device and other network entities. The lower panel of the view uses Interface icons to represent the device's serial, network, and I/O ports. These icons provide the same information and menu options as those in the [Device Views](#) (Page 10). If a device is connected to a particular interface, a Device icon appears on the vertical bar above the Interface icon along with an icon representing the network group that contains the device.

Refer to the **SPECTRUM Views** documentation for details on Device Topology view.

Figure 4: Device Topology View



Application Views

This section describes the main Application view and the associated application-specific subviews available for models of the supported DSL devices.

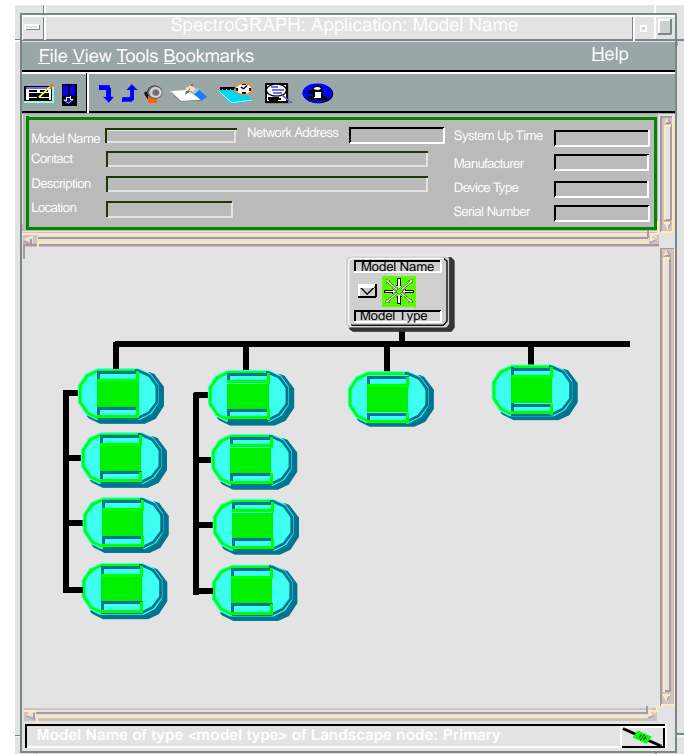
Access: From the **Icon Subviews** menu for the Device icon, select **Application**.

Main Application View

When a device model is created, SPECTRUM automatically creates models for each of the major and minor applications supported by the device. The main Application view identifies all of these application models, shows their current condition status, and provides access to application-specific subviews. [Figure 5](#) shows this view in the Icon mode. If you prefer the List mode, which displays applications as text labels, select **View > Mode > List**.

For more information on this view, refer to the **MIBs and the Application View** documentation.

Figure 5: Application View



Common Applications

For the most part, these applications represent the non proprietary MIBs supported by your device. Listed below (beneath the title of the SPECTRUM document that describes them) are some of the common applications currently supported by SPECTRUM.

**Note:**

The documents listed below (in bold font) are available for viewing at:

www.aprisma.com/manuals/

- **Routing Applications**

- Generic Routing
- Repeater
- AppleTalk
- DECnet
- OSPF
- OSPF2
- BGP4
- VRRP

- **Bridging Applications**

- Ethernet Special Database
- Spanning Tree
- Static
- Transparent

- PPP Bridging
- Source Routing
- Translation
- QBridge

- **MIB II Applications**

- SNMP
- IP
- ICMP
- TCP
- System2
- UDP

- **Transmission Applications**

- FDDI
- Point to Point
- DS1
- DS3
- RS-232
- WAN
- Frame Relay
- Token Ring
- Ethernet
- Fast Ethernet
- rfc1317App
- rfc1285App
- rfc1315App
- 802.11App
- SONET

- **Technology Applications**

- APPN
- ATM Client
- DHCP
- PNNI
- rfc1316App
- DLSw

**Note:**

Aprisma Management Technologies can provide training, technical assistance, and custom engineering support services for creating application models and their associated views.

Supported Applications

This device has the following Device-Specific Applications;

- [SSR Download Application](#) (Page 17)
- [SSRetherApp](#) (Page 20)
- [SSRsystemApp](#) (Page 23)
- [SSRwanApp](#) (Page 29)

SSR Download Application

This major application (model type SSRdownloadApp) provides the following application-specific subview:

- [Download/Upload Information View](#) (see below)

Download/Upload Information View

Access: From the Icon Subviews menu for the SSRdownloadApp Application icon, select **Download/Upload Information**.

This view contains the following information:

DL Force On Boot

When set to “1”, the system will request a download during the next system restart.

DL Initiate Cold Boot

When set to “1”, the “boot” software initiates a system reboot.

DL TFTP Request Host

The IP Address of the server used when a network “boot” is requested.

DL TFTP Request

The filename requested of the server when a network “boot” is requested.

DL Last Image Filename

Filename of the last image successfully loaded into memory.

DL Last Server IP Address

IP Address of the server used to load the present image into flash memory.

TFTP Server Gtway IP Address

The IP address of the gateway/router that connects this SNMP agent to the TFTP server.

DL Oper Status

The current status of any upload or download operations. The possible values are listed in [Table 3](#) (Page 18).

Table 3: DL Operational Status Value

Value	Description
normalOperation	Download started and finished normally.
downloadActive	Download in progress.
downloadCompleteError	Download was started but an error was detected.
uploadActive	Upload in progress.
uploadCompleteError	Upload started but an error was detected.
removeActive	A local file is being removed.
removeCompleteError	Failed to remove a local file.
unknown	Unknown.
other	None of the above.

DL OnLine Download

The value of this field controls an “upload” or “download.” Possible values are listed in [Table 4](#) (Page 19).

Table 4: Online Download Status Values

Value	Description
normalOperation	No download or upload currently executing.
forceDownload	Online download will be performed.
forceDownloadReset	Online download will be performed and a reset will be executed upon successful completion of the download.
forceUpload	Local file specified in DL Local Filename will be loaded to the TFTP server.
forceRemove	Delete the local file specified in DL Local Filename

DL Firmware Top

Ending address of the firmware (in RAM).

DL Firmware Start

Start address of the firmware (in RAM).

DL Boot Rev

The revision number of the boot firmware currently loaded in the module.

DL Force Bootp

When set, this variable forces the client to send a Bootp request packet, when rebooting.

DL Server Name

The Bootp server name.

DL Firmware Base

The starting address of the firmware in RAM.

DL Flash Count

The number of times flash memory has been reloaded.

DL Net Address

IP address of the server to be used when an image is to be downloaded using the “runtime TFTP download.”

DL Flash Size

Size of flash memory, in bytes.

DL Error String

If the value of DL Oper Status is downloadCompleteError or uploadCompleteError, this field provides a more detailed description of the error.

DL Filename

The filename the server requests when an image is to be downloaded using the “runtime TFTP download”.

DL Block Count

Current TFTP block count of an active session.

DL Boot Partition Status

Status of the boot partition(s). Possible values are listed in [Table 5](#).

Table 5: Boot Partition Status Values

Value	Description
good	All partitions contain a valid “checksum”.
bad	One or more partitions contains an invalid “checksum”.
inProgress	A correction of an invalid partition is in progress

DL Local Filename

Filename used on the local file system, whenever a TFTP download or upload is being processed.

DL Boot Version

The “boot” code version.

DL Boot Reason

Reason for the last reboot, possible values are: power-up, reset-switch, software-reboot, double-bus-fault, hardware-watchdog, loss-of- clock, suicide, and other.

SSRetherApp

This major application (model type SSRetherApp) provides the following application-specific subviews:

- [Ethernet Information View](#) (see below)
- [Ethernet NAT Information View](#) (Page 22)
- [Ethernet IP Translation Information View](#) (Page 22)

Ethernet Information View

Access: From the *Icon Subviews* menu for the SSRetherApp Application icon, select *Ethernet Information*.

This view contains two tables which provide the following information about the configuration of the LAN interfaces. Double-clicking an entry within either table will open the Ethernet Configuration View (detail), which allows you to configure the information for that particular entry.

Port Number

A unique value that identifies the interface port.

Bridge State

The current bridging status of the LAN port; either enabled or disabled.

IP State

Determines whether the IP protocol is routed via this LAN interface.

IPX State

Determines whether the IPX protocol is routed via this LAN interface.

IP Net Address

Allows you to set or retrieve the IP address for this LAN interface.

IP Net Mask

Allows you to set or retrieve the IP network mask for this LAN interface.

IPX Net Address

Allows you to set or retrieve the IPX external network number for this LAN interface.

Ipx Frame Type

Allows you to set or retrieve the IPX frame type, generated by the router, for this interface.

Ether IP Opt Recv RIP

Allows the processing of IP RIP 1 and RIP 2 packets received from this LAN interface.

Ether IP Opt Send RIP

Allows sending IP RIP 1 compatible packets to the LAN interface when IP routing is enabled.

Ether IP Opt Recv RIP Default

When routing is enabled, this allows you to update the IP routing table with the default route received on this LAN interface.

Ether IP Opt Send RIP Default

When IP routing is enabled, this allows the system to advertise itself as the default router on this LAN interface.

IPX Str Next Address

Allows you to set or retrieve the IPX external network number for this LAN interface.

IP Default Gateway

Allows you to set or retrieve the IP address for the default gateway and assign it to the interface specified in Port Number.

Ether IP Opt Recv RIP1

Allows the processing of IP RIP 1 packets received from this LAN interface.

Ether IP Opt Send RIP1

Allows sending IP RIP 1 packets to this LAN interface when IP routing is enabled.

Ether IP Opt Recv RIP2

Allows the processing of IP RIP 2 packets received from this LAN interface.

Ether IP Opt Send RIP2

Allows sending IP RIP 2 packets to this LAN

interface when IP routing is enabled.

IP RIP Multicast Address

Allows you to set or retrieve the RIP 2 Multicast address for this LAN interface.

NAT State

If IP protocol is routed through this interface, this value determines whether IP address/port translation is performed via this LAN interface.

Ethernet NAT Information View

Access: From the Icon Subviews menu for the SSRetherApp Application icon, select **Ethernet NAT Information**.

This view contains the Ethernet Network Address Translation (NAT) Host Mapping table which provides the following information:

First Private IP Address

The first private IP address that begins the range of private IP addresses mapped to public IP addresses.

Last Private IP Address

The last private IP address that ends the range of private IP addresses mapped to public IP addresses.

First Public Address

The first public IP address that begins the range of public IP addresses mapped to private IP addresses.

NAT Host Mapping Status

The value of this field determines whether an object in this table will be created, modified or deleted.

Ethernet IP Translation Information View

Access: From the Icon Subviews menu for the SSRetherApp Application icon, select **Ethernet IP Translation**.

This view contains the ethernet server IP Translation Server Table which contains the following information about server selection when doing IP address translation:

IP First Private Port

First private port, in range, used by the server.

IP First Translation Port

First public port, in range, used by this server.

IP Last Translation Port

Last public port, in range, used by this server.

IP Translation Protocol

The protocol used by this server.

IP Translation Server IP Address

The IP address of the server used when doing IP address translation.

IP Translation Status

The value of this field determines whether an object in this table will be created, modified or deleted.

SSRsystemApp

This major application (SSRsystemApp) has two minor applications: the Dynamic Host Configuration Protocol application (model type dhcpApp) and the Directory application (model type dirApp). The Icon Subviews menus for these applications provide access to the following application-specific subviews:

- [System Information View](#) (Page 23)
- [CallerID/UDP Relay Information View](#) (Page 26)
- [DHCP Server Option View](#) (Page 26)
- [DHCP Server Global Option View](#) (Page 27)
- [DHCP Server Subnet View](#) (Page 27)
- [DHCP Server Subnet Option View](#) (Page 28)
- [DHCP Server Client View](#) (Page 28)

- [DHCP Server Client Option View](#) (Page 29)
- [Directory Information View](#) (Page 29)

System Information View

Access: From the Icon Subviews menu for the SSRsystemApp Application icon, select **System Information**.

This view provides the following information about the system group:

Sys Name

An administratively-assigned name for this managed node. It will be the same name as the one defined in MIB2.

Sys Message

An administratively-assigned message for this managed node.

Sys Password

An administratively-assigned password for this managed node. The password will be used in the authentication phase of (point-to-point-protocols) PPP.

Sys Authen

An administratively-assigned authentication override type for this managed node.

Sys Operation

Save or load the system configuration (only what is defined in this group) to/from FLASH memory, or perform other control operations such as reboot. Possible values are listed in [Table 6](#).

Table 6: System Operation Values

Value	Description
save	Save to Flash.
load	Load to Flash (not recommended).
erase	Erase configuration in Flash.
reboot	Reboot after syncing file system.
set-clock	Set the RTC with fpSysXXX values.
reboot-likefactory	Erase config files and reboot.
reboot-like-new	Erase config/autoexec files and reboot.

Sys Software Version

The software version run by the system.

Sys Last Log Event

The last system event reported to the console.

Login Password

Assign or change the administrator's password for login.

Write Timeout

Sets and retrieves a timeout value (in minutes) during which a user logged in can modify objects.

Default -- 10 minutes (until changed).

No security timeout -- set to 0.

Write Timer

This object retrieves the current security timer value. It returns how many minutes are left (if any) before a new login must be performed.

Default Single User

Network Address Translation (NAT) has rendered this object obsolete. For backwards compatibility purposes, this object still allows you to set the IP address of the client for which IP address translation is to be performed.

Internet Firewall

Enables or disable the internet firewall filter. The filter discards any IP packet arriving from the WAN with a source IP address belonging to the LAN.

IPX Supported

Indicates whether IPX is supported in the router software.

MIB Compatibility

Indicates that this private MIB is fully compatible with RFC 1155.

POTS Installed

Indicates whether Plain Old Telephone Service (POTS) hardware is installed and is software supported.

Sys Hardware Version

The system model number, revision and serial number.

Sys Single User

This IP address is used to define the single address to which IP translation is to occur.

Bootp Relay

Allows you to get or set the IP address of the DHCP/Bootp Server when this router is acting as a Bootp relay agent.

Community Name

Sets and gets the SNMP community name. The default value is public.

WAN to WAN Forwarding

Enables or disables the forwarding of data traffic from one WAN link to another.

Kernel Revision

The number of times the source code has changed

Sys Year

Sets the year for the real-time clock.

Sys Month

Sets the month for the real-time clock

Sys Day

Sets the day for the real-time clock.

Sys Hour

Sets the hour for the real-time clock.

Sys Minute

Sets the minute for the real-time clock.

Sys Second

Sets the second for the real-time clock.

Telnet Port

The TCP port used for reception of Telnet connections to the router. Setting this value to zero disables Telnetting to the router.

SNMP Port

The TCP port used for reception of SNMP requests to the router. Setting this value to zero disables SNMP management of the router.

Sys Logout

Writing to this object prevents any change from an SNMP manager (until logged in again).

CallerID/UDP Relay Information View

Access: From the *Icon Subviews* menu for the *SSRsystemApp* Application icon, select **CallerID/UDP Information**.

This view contains the following information:

UDP Relay First Port

First UDP port in range of UDP ports which will be relayed.

UDP Relay IP Address

IP address to receive UDP broadcast traffic.

UDP Relay Last Port

Last UDP port in range of UDP ports which will be relayed.

UDP Relay Status

The value of this field determines whether an object in this table will be created, modified or deleted.

Caller ID Enabled

Enables or disables directed broadcasts to a directly connected interface.

One WAN Connection

Enables or disables running more than one WAN link at a time to different destinations.

Sys HTTP Port

The TCP port designated to receive HTTP requests to the router.

DHCP Server Option View

Access: From the *Icon Subviews* menu for the *dhcpApp* Application icon, select **DHCP Server Option**.

This view contains the following information:

Option Code

Dynamic Host Configuration protocol (DHCP) defined Option Code.

Min Count

Minimum allowed number of values for this option.

Max Count

Maximum allowed number of values for this option.

Option Type

Values for this option are of this type.

Option Code Status

This value determines whether an object in this table will be created, modified or deleted.

DHCP Operation

This value determines DHCP configuration in FLASH memory. Possible values are listed in [Table 7](#).

Table 7: DHCP Operation Values

Value	Description
save	Save DHCP data to flash.
load	Load DHCP data to flash.
erase	Erase DHCP data from flash.
dhcpenable	Enable all DHCP subnets.
dhcpdisable	Disable all DHCP subnets.

DHCP Server Global Option View

Access: From the **Icon Subviews** menu for the dhcpApp Application icon, select **DHCP Server Global Option**.

This view contains the following information:

Value Code

DHCP Option Code, as defined in rfc1533.

Value Type

Type of value for this DHCP Option Code.

Value

Value for this DHCP option.

Value Status

This value determines whether an object in this table will be created, modified or deleted.

Global TFTP Server

IP address for the TFTP server which is used as the next server for booting if the subnet and Client Lease do not have a TFTP server defined.

Global Lease Time

Global Lease Time value, in hours.

Global TFTP File

Name of file for booting. This value is used only if the value for the Global TFTP Server is set.

DHCP Server Subnet View

Access: From the **Icon Subviews** menu for the dhcpApp Application icon, select **DHCP Server Subnet**.

This view contains the following information:

Address

DHCP Subnet address.

Mask

DHCP subnet mask. If the subnet does not exist when you attempt to set the subnet mask, the subnet will be automatically created.

First IP Addr

First IP address in the subnet pool.

Last IP Addr

Last IP address in the subnet pool.

TFTP Server

IP address for the TFTP server. This subnet value is used as the next server for booting if the Client Lease does not have a TFTP server defined.

TFTP File

Name of file for booting. This value is used only if the subnet value for the TFTP server is set.

Bootp

Allow or disallow servicing of Bootp requests for this Subnet.

Lease Time

Subnet default lease time value, in hours.

Status

This value determines whether an object in this table will be created, modified or deleted.

Conflict Actions

The action this DHCP server should take if this subnet is for the local LAN and another DHCP server for the local LAN exists.

DHCP Server Subnet Option View

Access: From the *Icon Subviews* menu for the *dhcpApp* Application icon, select **DHCP Server Subnet Option**.

This view contains the following information:

Value Code

DHCP Option Code as defined in rfc1533.

Value Type

Type of value for this DHCP Option Code.

Value

Value for this DHCP Option.

Value Status

This value determines whether an object in this table will be created, modified or deleted.

DHCP Server Client View

Access: From the *Icon Subviews* menu for the *dhcpApp* Application icon, select **DHCP Server Client**.

The information in this table is used to set or clear DHCP Client Lease information. It contains the following information:

Address

DHCP Client Lease address.

TFTP Server

IP address for the TFTP server.

TFTP File

Name of file for booting.

Bootp

Allow or disallow servicing of Bootp requests for this Subnet. Default is disallow.

Lease Time

Client default lease time value in hours.

Expire Time Year

The year of the Client Lease expire time.

Expire Time Month

The month of the Client Lease expire time.

Expire Time Day

The day of the Client Lease expire time.

Expire Time Hour

The hour of the Client Lease expire time.

Expire Time Minute

The minute of the Client Lease expire time.

Expire Time Second

The seconds of the Client Lease expire time.

Status

This value determines whether an object in this table will be created, modified or deleted.

DHCP Server Client Option View

Access: From the Icon Subviews menu for the dhcpApp Application icon, select **DHCP Server Client Option**.

This view is exactly the same as the [DHCP Server Subnet Option View](#) (Page 28)

Directory Information View

Access: From the Icon Subviews menu for the dirApp Application icon, select **Directory Information**.

This view contains the following information:

Directory Index

A unique value identifying a file to be read.

Directory Name

A description of the file.

Directory Size

The size of the file, in bytes.

SSRwanApp

This major application (model type SSRwanApp) has five minor applications: the Dial on Demand Application (model type dodApp), the Plain Old Telephone System Application (model potsApp), the loginApp, the ipApp, and the isdnApp. The Icon Subviews menus associated with these applications provide access to the following application-specific subviews:

- [WAN Information View](#) (Page 30)

- [DOD Operation/Bridging View](#) (Page 31)
- [Remote IP Network Information View](#) (Page 31)
- [Phone/Call ID Information View](#) (Page 31)
- [Remote MAC View](#) (Page 32)
- [Remote IPX Network Table View](#) (Page 32)
- [Remote IPX SAP Table View](#) (Page 33)
- [IP Filter Table View](#) (Page 33)
- [IPX Filter Table View](#) (Page 34)
- [Callers Table View](#) (Page 34)
- [Server IP Translation Table View](#) (Page 34)
- [DOD NAT Host Mapping Table View](#) (Page 34)
- [POTS Information View](#) (Page 35)
- [POTS Interface Information View](#) (Page 36)
- [IP Information View](#) (Page 37)
- [Login Information View](#) (Page 37)
- [ISDN Information View](#) (Page 38)

WAN Information View

Access: From the Icon Subviews menu for the SSRwanApp Application icon, select **WAN Information**.

This view contains the following information:

WAN Index

The interface index number.

WAN Instant Out Util

Instantaneous output bandwidth utilization.

WAN Instant In Util

Instantaneous input bandwidth utilization.

WAN Avg Out Util

Sliding average of output bandwidth utilization

WAN Avg In Util

Sliding average of input bandwidth utilization.

WAN Remote Name

Name of the user/destination to which this interface is currently connected.

WAN Remote Time

The number of seconds that this interface has been connected.

WAN If Index

The corresponding MIB-II “ifindex” for this interface.

WAN Out Speed

This interface’s current transmit bandwidth speed, in bits per second.

WAN In Speed

This interface's current receive bandwidth speed, in bits per second.

DOD Operation/Bridging View

Access: From the Icon Subviews menu for the dodApp Application icon, select **DOD Configuration**.

This view contains the following information:

DOD Operation

Specifies whether to save, load, or erase Dial On Demand (DOD) configuration in FLASH memory.

Remote MAC Default

Remote destination name of the default bridge.

Remote IP Network Information View

Access: From the Icon Subviews menu for the dodApp Application icon, select Remote Ip Information.

This view contains the following information:

IP Net Address

The IP network address of an entry of the static IP routing table.

IP Net Gateway

The IP address of the gateway to which packets are sent when the static route is over a broadcast medium.

IP Net Hops

The hop count for the specified IP network address and destination name.

IP Net Mask

The IP network mask of an entry of the static IP routing table.

IP Net Operation

Adds or removes a static IP route to/from the destination.

Phone/Call ID Information View

Access: From the Icon Subviews menu for the dodApp Application icon, select **Phone Information**.

This view contains the Phone Information Table and the Call ID Table which provide the following information:

Phone Information Table

Phone Index

A unique value identifying the phone number in the table containing the specified Call ID Type and Destination Name.

Phone Number

The phone number.

Phone Speed

The line speed (in bits per seconds) for asynchronous connections.

Call ID Table

Call ID Phones

Number of entries in the Phone Information Table for this type of connection and this remote.

Call ID Type

The connection type

Remote MAC View

From the Icon Subviews menu for the dodApp Application icon, select Remote MAC Information.

This view contains the following information:

Remote MAC Address

Contains the IEEE unique MAC address of statically configured devices for bridging purposes.

Remote MAC Operation

Adds or removes a static address of a bridged destination or a destination to be bridged.

Remote IPX Network Table View

Access: From the Icon Subviews menu for the dodApp Application icon, select **Remote IPX N/W Information**.

This view contains the following information:

IPX Net Address

The IPX network address of an entry in the static IPX routing table.

IPX Net Metric

The number of hops to reach this IPX network (via this destination).

IPX Net Operation

Adds or removes a static IPX route to/from this destination.

IPX Net Str Address

The IPX network address of an entry in the static IPX routing table.

IPX Net Ticks

Number of ticks (measured in intervals of 1/18th of a second) necessary to reach this IPX network number (via this destination).

Remote IPX SAP Table View

Access: From the Icon Subviews menu for the dodApp Application icon, select **Remote IPX SAP Information**.

This view contains the following information:

IPX SAP Name

The name by which this IPX service is known.

IPX SAP Net Address

The internal IPX network number of the server providing this particular IPX service.

IPX SAP Node Address

The node address on the IPX network number from which a server provides this particular IPX service.

IPX SAP Socket

The socket (i.e. internal port number) of the server at which the specified IPX service is provided.

IPX SAP Type

The type of service (i.e. File Service, Advertising Print Service, etc.).

IPX SAP Hops

The number of hops necessary to reach the provider of this service.

IPX SAP Operation

Adds or deletes IPX SAP services to/from this destination.

IPX SAP Str Net Address

The internal IPX network number of the server providing this particular IPX service. This value is expressed as an ASCII string and converted to

hexadecimal by the firmware.

IPX SAP Str Socket

The socket (i.e. internal port number) of the server at which the specified IPX service is provided. This value is expressed as an ASCII string and converted to hexadecimal by the firmware.

IPX SAP Str Type

The type of service (i.e. File Service, Advertising Print Service, etc.). This value is expressed as an ASCII string and converted to hexadecimal by the firmware.

IP Filter Table View

Access: From the Icon Subviews menu for the dodApp Application icon, select **IP Filter Information**.

This table provides a set of IP filters for this remote.

IPX Filter Table View

Access: From the Icon Subviews menu for the dodApp Application icon, select **IPX Filter Information**.

This view contains the IPX Filter Table, which provides information about the IPX filters defined for this remote.

Callers Table View

Access: From the Icon Subviews menu for the dodApp Application icon, select **Callers Information**.

This view contains the following information:

Caller Number

The number against which caller ID verification takes place or is used to find out which peer is calling, before dial-back takes place.

Caller Operation

Allows you to add or remove an entry for the specified remote and connection type.

Server IP Translation Table View

Access: From the Icon Subviews menu for the dodApp Application icon, select **Server IP Translation Server Info**.

This view contains the following information:

IP Translation Ser IP Addr

The IP address of the server used for IP address translation.

IP Translation Protocol

The protocol used by this server.

IP First Translation Port

First public port in range, used by this server.

IP Last Translation Port

Last public port in range, used by this server.

IP First Private Port

This is the first private port in range, as seen by the server.

IP Translation Status

This value determines whether an object in this table will be created, modified or deleted.

DOD NAT Host Mapping Table View

Access: From the Icon Subviews menu for the dodApp Application icon, select **NAT Host Mapping Information**.

This table contains the following information which is used to select Network Address

Translation (NAT) Host Mapping when doing IP address translation.

First Private IP Address

The first private IP address which starts the range of private IP addresses mapped to public IP addresses.

Last Private IP Address

The last private IP address which ends the range of private IP addresses mapped to public IP addresses.

First Public IP Address

The first public IP address which starts the range of public IP Addresses mapped to private IP addresses.

NAT Host Mapping Status

This value determines whether an object in this table will be created, modified or deleted.

POTS Information View

Access: From the *Icon Subviews* menu for the *potsApp* Application icon, select **POTS Information**.

This is the Plain Old Telephone Service (POTS) Information view, which provides the following information:

POTS Index

Index used to access an entry in this table: maps

to the connectors marked POTS1 and POTS2.

POTS Enabled

Enable or disable the POTS functionality at the specified connector.

POTS OP Mode

Specifies the type of calls that should be handled by this POTS interface. Possible values are listed in [Table 8](#).

Table 8: POTS OP Mode Values

Value	Description
dial	Allows outgoing calls only.
answer	Allows incoming calls only.
both	Allows both incoming and outgoing calls.

POTS Preempt Mode

Specifies the behavior of analog calls versus data calls. Possible values are listed in [Table 9](#).

POTS Auto Mode

Defines whether the preemption mode defined by POTS Preempt Mode is to be performed automatically or whether the user should be prompted first. This only applies when the

preemption of that type is allowed. Possible values are listed in [Table 10](#).

Table 9: POTS Preempt Mode Values

Value	Description
in	Preempt data with incoming calls.
out	Preempt data with outgoing calls.
both	Preempt data with both incoming and outgoing calls.
none	Never preempt a data call.

Table 10: POTS OP Mode Values

Value	Description
in	Automatic with incoming calls only.
out	Automatic with outgoing calls only.
both	Automatic with both incoming and outgoing calls.
none	Always ask operator.

POTS Phone Cnt

Indicates the number of phone numbers associated with this POTS interface.

POTS Local Number

The local phone number used by this POTS interface during the last analog call processed (incoming and outgoing).

POTS Remote Number

The remote phone number used by this POTS interface during the last analog call processed (outgoing and incoming when caller ID is available).

POTS State

Current state of this POTS interface. Possible values are listed in [Table 11](#).

POTS ISDN Channel

Indicates which ISDN channel (1 or 2) is associated with this POTS interface for the duration of this call.

POTS WAN Index

Indicates which WAN interface (1 or 2) is associated with this POTS interface for the duration of this call.

POTS Interface Information View

Access: From the Icon Subviews menu for the potsApp Application icon, select **POTS Interface Information**.

This view contains the following information:

Table 11: POTS State Values

Value	Description
ringing	Incoming call.
dialing	Outgoing call.
proceeding	Waiting for call completion.
connected incoming	Incoming call established.
connected outgoing	Outgoing call established.
disconnected	Call terminated.
entering-ip-addr	Dialing an IP address.
held-call	Held call.
wait-dialtone	Off hook, waiting for dialtone.
idle	On hook, in idle state.
not available	POTS interface disabled.
other	None of the above.

POTS Phone Number

A phone number associated with the specified POTS interface, such that when an incoming analog call arrives, that interface rings, if allowed.

POTS Phone Operation

Allows you to add or remove an association between the specified phone number and the POTS interface.

IP Information View

Access: From the Icon Subviews menu for the ipApp Application icon, select **IP Information**.

This view contains the same information as the [Ethernet IP Translation Information View](#) (Page 22).

Login Information View

Access: From the Icon Subviews menu for the loginApp Application icon, select **login Information**.

This view contains a table that shows the login status of a user. Possible values are listed in [Table 12](#).

Table 12: Login Status Values

Status	Description
OK	Password matches system's password.
login-fail	Password mismatch.

ISDN Information View

Access: From the Icon Subviews menu for the isdnApp Application icon, select **ISDN Information**.

This view contains the following information:

Ch1 Spid

The spid number for the 1st B channel.

Ch2 Spid

The spid number for the 2nd B channel.

Ch1 Directory Num

The directory number for the 1st B channel.

Ch2 Directory Num

The directory number for the 2nd B channel.

ISDN Status

Allows you to set and view the service status for the ISDN line. Possible values are listed in [Table 13](#) (Page 38).

Table 13: ISDN Status Values

Value	Description
inService	Okay to place or receive calls.
notOperational	Not operational.
startAutoSpid	Start automatic spid negotiation.
stopAutoSpid	Stop automatic spid negotiation.

Table 13: ISDN Status Values (Continued)

Value	Description
autoSpidActivate	Searching for spids.
validatingSpids	Validating discovered spids.
qualifyingSpids	Validating existing spids.

Auto Spid Counter

The spid index currently being tried when doing auto spid detection.

Ch1 Status

The current state of B channel 1. Possible values are listed in [Table 14](#).

Ch2 Status

The current state of B channel 2. Possible values are listed in [Table 14](#).

Ch1 Clear Code

The clearing code of the last call for B channel 1.

Ch2 Clear Code

The clearing code of the last call for B channel 2.

Ch1 Clear Reason

An explanation of why the last call was cleared for B channel 1.

Table 14: Ch1 Status Values

Value	Description
idle	Standby state.
opening	Establishing a call.
connected	Connected to a remote.
closing	Tearing down a call.
alerting	Incoming Call.
dialing	Outgoing call.
out-of-service	DSL is out of service.
in-use-by-POTS	POTS has use of the channel.

Ch2 Clear Reason

An explanation of why the last call was cleared for B channel 2.

ISDN Speed

This value determines whether the ISDN calls are made at a speed determined by the speed defined in the remote database and processed as indicated by the network (auto) or locked at 56Kb/s, regardless of the remote database settings.

Data Calls In

This value determines whether ISDN calls can be received.

Data Calls Out

This field determine whether ISDN calls can be generated.

Line Status

The current status of the line. Possible values are activated or deactivated.

ISDN Switch Type

The ISDN switch type. Possible values are listed in [Table 15](#).

Table 15: Switch Type Values

Value	Description
att5ess	AT&T 5ESS w/custom software
dms100	Northern Telecom DMS-100
kdd	Kokusai Denshin Denwa (Japan)
net3	NET-3 ETSI
net3swiss	Swiss NET-3 variant
ni1	National ISDN-1
ntt	Nippon Telegraph and Telephone
auto	Auto switch type

ISDN Operation

Allows you to save, load, or erase the ISDN configuration to/from FLASH memory.

Performance Views

This section provides brief descriptions of the Performance views available for the Lucent Cajun P330/550/880 devices in SPECTRUM.

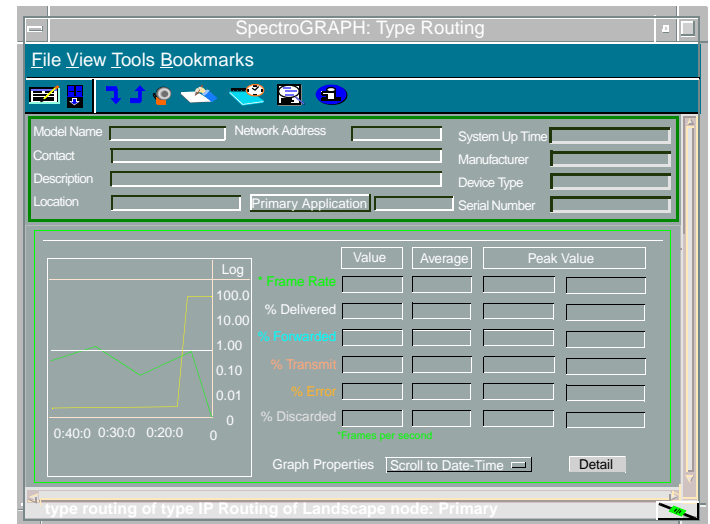
Performance views display performance statistics in terms of a set of transmission attributes, e.g., cell rates, frame rates, % error, etc. A typical view is shown in Figure 6. The instantaneous condition of each transmission attribute is recorded in a graph. The statistical information for each attribute is presented in the adjacent table.

Generally, you determine performance at the device level through Performance views accessed from the Device and Application icons. You determine performance at the port/interface level through Performance views accessed from Interface icons.

For more information on Performance views, refer to the **SPECTRUM Views** documentation.

The following paragraphs list the performance attributes displayed for each Performance view supported by this management module.

Figure 6: Performance View



Device Performance View

Access: From the **Icon Subviews** menu for the Device icon, select **Performance**.

Current and historical frame transmission information is provided via the following attributes.

- Load
- Packet Rate
- % Error
- % Discarded

Port Performance View

Access: From the **Icon Subviews** menu for the Device Interface icon, select **Performance**.

Current and historical packet transmission information is provided via the following attributes.

- Load
- Packet Rate
- % Error
- % Discarded

Configuration Views

This section describes the various Configuration views and subviews available for models of the supported DSL devices.

Configuration views allow you to view and modify current settings for the modeled device and its interfaces, ports, and applications. The following Configuration views are available for models of the supported DSL devices:

- [Device Configuration View](#) (see below)
- [Interface Configuration View](#) (Page 44)
- [DOD Configuration View](#) (Page 44)

Device Configuration View

Access: From the Icon Subviews menu for the Device icon, select **Configuration**.

This view ([Figure 7](#)) provides status and configuration information about the device as a whole as well as on a port-by-port basis. Fields and column headings within the Device Configuration view and its subviews are explained in detail in the **SPECTRUM Views** documentation.

Figure 7: Device Configuration View

Index	Description	Type	Bandwidth	Physical Address	Operational Status
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Interface Configuration View

Access: From the Icon Subviews menu for a selected Interface icon in the Interface Device view, select **IF Configuration**.

This view provides the following information for the selected interface:

Operation Status

The current operational state of the interface (On, Off, or Testing).

Admin. Status

The desired operational state of the interface (On, Off, or Testing).

Last Change

The System UpTime value when the interface entered its current operational state.

IP Address/Network Mask

This window provides a list of the user-defined names and IP addresses for the interface.

Physical Address

The Ethernet (MAC) address of the interface.

Bandwidth

The estimated bandwidth of the interface, measured in bits per second. For interfaces that do not vary in bandwidth, or for which no

accurate estimate can be made, a nominal bandwidth is provided.

Packet Size

The largest packet that can be transmitted or received by the port, displayed in octets.

Queue Length

The length of the outbound packet queue, in packets.

DOD Configuration View

Access: From the Icon Subviews menu for the dodApp Application icon, select **DOD Configuration**.

This view contains the following information:

Table ID

The identifier number of the remote destination.

Destination Name

A description of the remote destination.

Authen Protocol

The minimum authentication protocol this remote connection is using. Possible values are: chap, pap, and none.

Max Links

The maximum number of links to be used when the system dials out or accepts incoming calls.

BW Threshold

An established link's bandwidth utilization. This value (0 - 100) is utilized for triggering additional links. A value of zero means all available links are dialed while 100 means no additional links are used.

Prefer Type

The preferred type of connection.

Tear Down Timer

The timeout limit (in seconds) to tear down this link when there is no activity for the link.

Source IP Address

The local IP address of the WAN interface.

Remote IP Address

The remote IP address of the WAN interface.

Source IP Mask

The local IP net mask of the WAN interface.

Remote IP Mask

The remote IP net mask of the WAN interface.

IPX Net Address

The IPX net address associated with the WAN link when connected to this remote.

IP Filters

Number of IP filters currently defined for this remote.

IPX Filters

Number of IPX filters currently defined for this remote.

Remote IP Nets

The number of static IP routing entries for this Destination Name or connection.

Remote IPX Nets

The number of static IPX routing entries for this Destination Name or connection.

Remote IPX SAPs

The number of static IPX SAP entries for this destination.

Remote Mac State

Enables or disables the current bridge state for this destination.

Remote Macs

Number of specific MAC addresses that are statically bridged to this remote.

Last Activity Time

The last "activity time" with this destination.

Min Links

The minimum number of links to be used when this system dials out or accepts incoming calls.

BOD Type

The type of traffic to which bandwidth management applies. Possible values are listed in [Table 16](#).

Table 16: BOD Type Values

Value	Description
input	Incoming traffic only (from WAN).
output	Outgoing traffic only (to WAN).
both	Incoming and outgoing traffic.

IP Opt Recv RIP

Allows processing of RIP packets received from this destination when connected and IP routing is enabled for RIP1.

IP Opt Send RIP

Allows sending of RIP packets to this destination when connected and IP routing is enabled for RIP1.

IP Opt Recv RIP Default

Allows updating of the IP default route when receiving a RIP packet from this destination for the route 0.0.0.0.

IP Opt Send RIP Default

Allows sending of the IP default route (if known) to this destination, when connected as 0.0.0.0.

IP Opt Keep Private

Allows the route to this destination to be kept private.

BR Opt Use Stp

Allows use of Bridging Spanning Tree Protocol when connected to this destination.

PPP Opt Use LCP Echo

Perform a PPP LCP Echo request at regular intervals.

Entry Is Disabled

This entry in the table is active (enabled) or temporarily disabled.

Callback Option

Defines the circumstances under which this system is allowed to dial the specified remote. Possible values are listed in [Table 17](#) (Page 47).

Send Data As Voice

Determines whether ISDN data calls issued to this remote should be generated as voice calls instead of restricted or unrestricted digital (ISDN only).

Table 17: Callback Values

Value	Description
enable	Call remote and dialback.
disable	Never dialback this remote.
callback-only	Call only to perform dialback.

**Note:**

In order to implement “dialback”, caller entries for this remote must exist. This allows the system to identify which remote is calling.

IPX Net Str Address

The IPX network address associated with this WAN link.

PPP Callback Option

Defines the circumstances under which this system would request a Callback by using a method within the PPP Protocol suite (as opposed to ISDN callback). Possible values are listed in [Table 18](#).

Table 18: PPP Callback Options

Value	Description
name-string	Give name in Callback info.
e164-string	Give phone number in Callback info.
location-string	Give location in Callback info.
dial-string	Give phone number in Callback info.
authentication	Based on authentication.
none	Do not initiate PPP Callback.

PPP Callback Info

When PPP Callback Option is set to something other than none, this field contains additional information sent on the Callback.

Don't Authenticate

When enabled, authentication is not required when dialing out.

IP Addr Translation

When enabled, IP address translation is done.

Ip Opt Recv RIP1

Allows processing of RIP packets received from this destination when connected and IP routing is enabled for RIP 1 only.

IP Opt Send RIP1

Allows sending of RIP packets to this destination when connected and IP routing is enabled for RIP 1 only.

IP Opt Recv RIP2

Allows processing of RIP packets received from this destination when connected and IP routing is enabled for RIP 2 only.

IP Opt Send RIP2

Allows sending of RIP packets to this destination when connected and IP routing is enabled for RIP 2 only.

Protocol

Type of protocol used for communicating with this remote. Possible values are listed in [Table 19](#).

Table 19: Protocol Types

Type	Description
protocolppp	PPP VC-multiplexed
protocol1483pppllc	PPP LLC-multiplexed
protocol1483snap	RFC1483/1490 (SNAP)
protocol1483snapmer	RFC1483/1490 MAC Encapsulated Routing
protocol1483snapfr	FRF.8 Compatibility
protocolrawip	No encapsulation: Raw IP

Compression

When enabled, compression is done.

Password Specified

Returns “true” if the password for this remote connection has been specified.

Our Password Specified

Returns “true” if our password for this remote connection has been specified.

Model Information Views

This section provides a brief description of the Model Information views available for models of the supported DSL devices.

Model Information views provide descriptive and configuration information about models of devices, interfaces, and applications. Figure 8 shows an example of a Model Information view accessed from the Icon Subviews menu for the FP2200 model's Device icon. Model Information views are also available for each of the Interface icons in the Interface Device and Interface Device Topology views, and for each of the Application icons in the Application view. Although these views may vary slightly, depending on the particular entity being modeled, their basic layout and content are similar for most SPECTRUM management modules. Therefore, these views are described in more detail in **SPECTRUM Views**.

Figure 8: Model Information View

The screenshot shows the 'SpectroGRAPH: Model Name' window. The 'Model Information View' tab is active. The view is divided into several sections:

- Model Information View (Top Section):** Contains fields for Model Name, Network Address, System Up Time, Contact, Description, Location, Manufacturer, Device Type, and Serial Number. A 'Primary Application' dropdown is also present.
- General Information:** Contains fields for MM Name, MM Part Number, MM Version Number, Model Type, Model Creation Time, Model Created By, Model State, Security String, Condition, Condition Value, Contact Status, Lost Child Count, Value When Yellow, Value When Orange, and Value When Red.
- Communication Information:** Contains fields for DCM TimeOut, DCM Retry, and Community Name.
- Poll/Log Information:** Contains fields for Poll Interval, Polling Status, Last Successful Poll, and Log Ratio. Below these are two large boxes labeled 'LOGGED' and 'POLLED'.

The status bar at the bottom indicates 'type Model Type of Landscape: Primary'.

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